

- 30) This tolerance is not applicable to survival craft stations operating on the frequency 243 MHz.
- 31) For transmitters used by on-board communication stations a tolerance of 5 parts in 10^6 shall apply.
- 32) For non-vehicular mounted portable equipment with a transmitter mean power not exceeding 5 W the tolerance is 15 parts in 10^6 .
- 33) Where specific frequencies are not assigned to radar stations, the bandwidth occupied by the emissions of such stations shall be maintained wholly within the band allocated to the service and the indicated tolerance does not apply.
- 34) For transmitters using time-division multiplex the tolerance of 300 may be increased to 500.
- 35) This tolerance applies only to such emissions for which the necessary bandwidth does not exceed 3 000 kHz; for larger bandwidth emissions a tolerance of 300 applies.
- 36) In applying this tolerance administrations should be guided by the latest relevant ITU-R Recommendations.

APPENDIX S3

**Table of Maximum Permitted Spurious
Emission Power Levels**

(See Article S3)

- 1 The following table indicates the maximum permitted levels of spurious emissions, in terms of the mean power level of any spurious component supplied by a transmitter to the antenna transmission line.
- 2 Spurious emission from any part of the installation other than the antenna and its transmission line shall not have an effect greater than would occur if this antenna system were supplied with the maximum permitted power at that spurious emission frequency.
- 3 These levels shall not, however, apply to emergency position-indicating radiobeacon (EPIRB) stations, emergency locator transmitters, ships' emergency transmitters, lifeboat transmitters, survival craft stations or maritime transmitters when used in emergency situations.
- 4 For technical or operational reasons, specific services may demand more stringent levels than those specified in the table. The levels applied to these services shall be those agreed upon by the appropriate conference. More stringent levels may also be fixed by specific agreement between the administrations concerned.
- 5 For radiodetermination stations, until acceptable methods of measurement exist, the lowest practicable power of spurious emission should be achieved.

<p>Frequency Band Containing the Assignment</p> <p>(lower limit exclusive, upper limit inclusive)</p>	<p>For any spurious component the attenuation (mean power within the necessary bandwidth relative to the mean power of the spurious component concerned) shall be at least that specified below and the absolute mean power levels given shall not be exceeded (Note 1)</p> <p>Levels applicable to transmitters installed after 1 January 1985 and to all transmitters after 1 January 1994</p>
<p>9 kHz to 30 MHz</p>	<p>40 decibels 50 milliwatts (Notes 4, 7, 8)</p>
<p>30 MHz to 235 MHz</p> <p>— mean power above 25 watts</p> <p>— mean power 25 watts or less</p>	<p>60 decibels 1 milliwatt (Note 9)</p> <p>40 decibels 25 microwatts</p>
<p>235 MHz to 960 MHz</p> <p>— mean power above 25 watts</p> <p>— mean power 25 watts or less</p>	<p>60 decibels 20 milliwatts (Notes 10, 11)</p> <p>40 decibels 25 microwatts (Notes 10, 11)</p>
<p>960 MHz to 17.7 GHz</p> <p>— mean power above 10 watts</p> <p>— mean power 10 watts or less</p>	<p>50 decibels 100 milliwatts (Notes 10, 11, 12, 13)</p> <p>100 microwatts (Notes 10, 11, 12, 13)</p>
<p>Above 17.7 GHz</p>	<p>Due to the diverse nature of technologies employed by services operating above 17.7 GHz, further study by the ITU-R is required prior to the specification of levels. To the extent possible, the values to be observed should be those shown in appropriate ITU-R Recommendations. Until suitable Recommendations have been adopted, the lowest possible values achievable shall be employed (see Recommendation 66)</p>

Notes in the Table of Maximum Permitted Spurious Emission Power Levels

- 1) When checking compliance with the provisions of the table, it shall be verified that the bandwidth of the measuring equipment is sufficiently wide to accept all significant components of the spurious emission concerned.
- 2) For transmitters of mean power exceeding 50 kilowatts and which operate below 30 MHz over a frequency range approaching an octave or more, a reduction below 50 milliwatts is not mandatory, but a minimum attenuation of 60 decibels shall be provided and every effort should be made to comply with the level of 50 milliwatts.
- 3) For hand-portable equipment of mean power less than 5 watts which operates below 30 MHz, the attenuation shall be at least 30 decibels, but every effort should be made to attain 40 decibels attenuation.
- 4) For mobile transmitters which operate below 30 MHz any spurious component shall have an attenuation of at least 40 decibels without exceeding the value of 200 milliwatts, but every effort should be made to comply with the level of 50 milliwatts wherever practicable.
- 5) For frequency modulated maritime mobile radiotelephone equipment which operates above 30 MHz, the mean power of any spurious emission falling in any other international maritime mobile channel, due to products of modulation, shall not exceed a level of 10 microwatts and the mean power of any other spurious emission on any discrete frequency within the international maritime mobile band shall not exceed a level of 2.5 microwatts. Where, exceptionally, transmitters of mean power above 20 watts are employed, these levels may be increased in proportion to the mean power of the transmitter.
- 6) For transmitters having a mean power of less than 100 milliwatts, it is not mandatory to comply with an attenuation of 40 decibels provided that the mean power level does not exceed 10 microwatts.
- 7) For transmitters of a mean power exceeding 50 kilowatts which can operate on two or more frequencies covering a frequency range approaching an octave or more, while a reduction below 50 milliwatts is not mandatory, a minimum attenuation of 60 decibels shall be provided.
- 8) For hand-portable equipment of mean power less than 5 watts, the attenuation shall be 30 decibels, but every practicable effort should be made to attain 40 decibels attenuation.
- 9) Administrations may adopt a level of 10 milliwatts provided that harmful interference is not caused.
- 10) Where several transmitters feed a common antenna or closely spaced antennae on neighbouring frequencies, every practicable effort should be made to comply with the levels specified.

11) Since these levels may not provide adequate protection for receiving stations in the radio astronomy and space services, more stringent levels might be considered in each individual case in the light of the geographical position of the stations concerned.

12) These levels are not applicable to systems using digital modulation techniques, but may be used as a guide. Values for these systems may be provided by the relevant ITU-R Recommendations, when available (see Recommendation 66).

13) These levels are not applicable to stations in the space services, but the levels of their spurious emissions should be reduced to the lowest possible values compatible with the technical and economic constraints to which the equipment is subject. Values for these systems may be provided by the relevant ITU-R Recommendations, when available (see Recommendation 66).

APPENDIX S4

(MOD)

**Consolidated List and Tables of Characteristics for Use in the
Application of the Procedures of Chapter SIII**

NOC

1 The substance of this Appendix is separated into two parts: one concerning data and their use for terrestrial radiocommunication services and another concerning data and their use for space radiocommunication services.

(MOD)

2 Both parts contain a list of characteristics and a table indicating the use of each of the characteristics in specific circumstances.

Annex 1A: List of characteristics of stations in the terrestrial services.

Annex 1B: Table of characteristics to be submitted for stations in the terrestrial services.

Annex 2A: Characteristics of satellite networks or earth or radio astronomy stations.

Annex 2B: Table of characteristics to be submitted for space and radio astronomy services.

ANNEX 1A
(to Appendix S4)

NOC **List of characteristics of stations in the terrestrial services¹**

NOC **ITEM B - Notifying administration**

Country symbol of the notifying administration.

NOC **ITEM SYNC - Synchronized network**

Symbol followed by the identification number of the network, if the station concerned by the assignment pertains to a synchronized network.

NOC **ITEM 1A - Assigned frequency**

The assigned frequency as defined in Article S1.

NOC **ITEM 1B - Reference frequency**

The reference frequency as defined in Article S1.

NOC **ITEM 1C - Preferred band (MHz)**

For notifications under Nos. S13.5 and S7.6 and for HF broadcasting stations in their exclusive bands.

ADD **ITEM 1D - Vision Carrier Frequency**

The vision carrier frequency of a television broadcasting assignment.

MOD ¹ *Note – The Bureau shall develop and keep up-to-date forms of notice to meet fully the statutory provisions of this Appendix and related decisions of future conferences. Additional information on items listed in this Annex together with an explanation of the symbols is to be found in the Preface to the International Frequency List.*

MOD **ITEM 1E - Frequency offset**

The carrier frequency offset expressed as a multiple of 1/12 of the line frequency of the television system concerned, expressed by a number and a symbol (P or M).

NOC **ITEM 1G - Alternative frequency**

For HF broadcasting stations in their exclusive bands.

NOC **ITEM 1H - Other frequencies used**

For HF broadcasting stations in their exclusive bands.

MOD **ITEM 1X - Channel number proposed or allotted channel**

For HF coast radiotelephone stations.

MOD **ITEM 1Y - Channel number of the alternative proposed channel**

For HF coast radiotelephone stations.

MOD **ITEM 1Z - Channel number of channel to be replaced**

For HF coast radiotelephone stations.

NOC **ITEM 2C - Date of bringing into use**

The date (actual or foreseen, as appropriate) of bringing the frequency assignment (new or modified) into use.

(MOD) **ITEM 3A - Call sign or identification**

The call sign or other identification used in accordance with Article S19.

NOC **ITEM 4A - Name of the transmitting station**

The name of the locality by which the transmitting station is known or in which it is situated.

NOC **ITEM 4B - Country or geographical area**

The country or geographical area in which the station is located.

NOC **ITEM 4C - Geographical coordinates**

The geographical coordinates (longitude and latitude in degrees and minutes) of the transmitter site. In some cases, seconds are also indicated.

NOC **ITEM 4D - Radius of the circular area**

The nominal radius (km) of the circular area in which the mobile transmitting stations are operating.

(MOD) **ITEM 4E - Country symbol or standard defined area**

A country symbol or a standard defined area described by the symbols contained in standard references.

(MOD) **ITEM 4F - B1 character (transmitter coverage area identifier)**

For a coast station assignment in the international NAVTEX system.

(MOD) **ITEM 4G - Ground conductivity**

For assignments to stations of the broadcasting service covered by the LF/MF Broadcasting Agreement (Regions 1 and 3) (Geneva, 1975).

NOC **ITEM 5A - Name of the receiving station**

The name of the locality by which the receiving station is known or in which it is situated.

NOC **ITEM 5B - Country or geographical area**

The country or geographical area in which the receiving station is located.

NOC **ITEM 5C - Geographical coordinates**

The geographical coordinates (longitude and latitude in degrees and minutes) of the site of the receiving station.

- NOC** **ITEM 5D - Area of the receiving station(s)**
The standard defined area of reception of the transmitting station.
- NOC** **ITEM 5E - Longitude and latitude of the centre of the circular receiving area**
The geographical coordinates (in degrees and minutes).
- NOC** **ITEM 5F - Nominal radius of the circular receiving area**
The radius (km) of the circular receiving area.
- ADD** **ITEM 5G - Maximum length of circuit**
The maximum length of the circuit (in km) for receiving areas other than circular.
- NOC** **ITEM 6A - Class of station**
The class of station described by a symbol.
- NOC** **ITEM 6B - Nature of service**
The nature of service described by a symbol.
- NOC** **ITEM 6C - Experimental station**
Symbol EX in this item for experimental station only.
- NOC** **ITEM 7A - Class of emission, necessary bandwidth and description of transmission**
The class of emission, necessary bandwidth and description of transmission, in accordance with Article S2 and Appendix S1.
- (MOD)** **ITEM 7B - Class of operation of the assignment**
The class of operation of the assignment.
- (MOD)** **ITEM 7C1 - Television system**
Symbol corresponding to the television system.

(MOD) ITEM 7C2 - Colour system

Symbol corresponding to the colour system.

(MOD) ITEM 7D - Transmission system

Symbol corresponding to the transmission system for an assignment to a broadcasting station.

ADD ITEM 7E - Frequency deviation

For any type of modulation, as applicable: the peak-to-peak frequency deviation (MHz).

ADD ITEM 7F - Energy dispersal

For any type of modulation, as applicable: the sweep frequency (kHz) of the energy dispersal waveform.

(MOD) ITEM 8 - Power (dBW)

Symbol X, Y or Z describing, as appropriate, the type of power corresponding to the class of emission.

NOC ITEM 8A - Power delivered to the antenna (dBW)

The power delivered to the antenna transmission line expressed in dBW.

ADD ITEM 8AB - Maximum power density (dB(W/Hz))

The maximum power density (dB(W/Hz)) for each carrier type averaged over the worst 4 kHz band for carriers below 15 GHz, or averaged over the worst 1 MHz band for carriers above 15 GHz, supplied to the antenna transmission line.

(MOD) ITEM 8B - Radiated power (dBW)

The radiated power expressed in dBW in one of the forms described in Nos. S1.161 to S1.163.

- MOD** **ITEM 8BH - Effective radiated power (dBW) - horizontal**
- The effective radiated power of the horizontal polarization component (for VHF sound broadcasting (BC) and VHF/UHF television broadcasting (BT) assignments).
- MOD** **ITEM 8BY - Effective radiated power (dBW) - vertical**
- The effective radiated power of the vertical polarization component (for VHF sound broadcasting (BC) and VHF/UHF television broadcasting (BT) assignments).
- MOD** **ITEM 8D - Vision/Sound Power Ratio**
- Vision/sound carrier power ratio for VHF/UHF television broadcasting (BT) assignments.
- ADD** **ITEM 9 - Directivity of the antenna**
- Directional (D) or non-directional (ND) antenna.
- (MOD)** **ITEM 9A - Azimuth of maximum radiation**
- For a directional transmitting antenna, the azimuth of maximum radiation of the transmitting antenna in degrees (clockwise) from True North, or the symbol "ND" for a non-directional antenna.
- NOC** **ITEM 9AA - Central azimuth of augmentation**
- The central azimuth of the augmentation (centre of the span) in degrees for an assignment to a broadcasting station.
- ADD** **ITEM 9AB - Azimuthal sector for rotating antenna**
- Two azimuths in degrees (clockwise from True North) defining the sector in which the antenna rotates.
- NOC** **ITEM 9B - Elevation angle of maximum directivity**
- The angle of maximum directivity in degrees with one decimal position.

- (MOD) **ITEM 9C - Angular width of radiation main lobe (beamwidth)**
The total angle measured horizontally in a plane containing the direction of maximum radiation, in degrees, within which the power radiated in any direction does not fall more than 3 dB below the power radiated in the direction of maximum radiation.
- NOC **ITEM 9CA - Total span of augmentation**
The total span of the augmentation in degrees for an assignment to a broadcasting station.
- NOC **ITEM 9D - Polarization**
Information on polarization.
- (MOD) **ITEM 9E - Height of antenna**
Information on height above ground level, in metres.
- ADD **ITEM 9EA - Altitude of site above sea level**
Information on the altitude of the site above mean sea level, in metres (for VHF sound broadcasting (BC) and VHF/UHF television broadcasting (BT) assignments).
- ADD **ITEM 9EB - Maximum effective antenna height**
The maximum effective height of the antenna, in metres (for VHF sound broadcasting (BC) and VHF/UHF television broadcasting (BT) assignments).
- ADD **ITEM 9EC - Effective antenna height at different azimuths**
The effective height of the antenna at different azimuths, in metres, for every 10 degree interval (for VHF sound broadcasting (BC) and VHF/UHF television broadcasting (BT) assignments).
- MOD **ITEM 9F - Electrical height or maximum height of the antenna**
The electrical height of the antenna in degrees or metres.

- NOC **ITEM 9G - Maximum antenna gain (isotropic, relative to a short vertical antenna or relative to a half-wave dipole, as appropriate)**
- The maximum gain of the antenna in the direction of maximum radiation (see No. S1.160).
- NOC **ITEM 9GH - Antenna gain for different azimuths in the horizontal plane**
- The antenna gain in the horizontal plane for different azimuths (in dB).
- NOC **ITEM 9GV - Antenna gain for different azimuths in the vertical plane**
- The antenna gain in the vertical plane for different azimuths (in dB).
- NOC **ITEM 9H - Azimuths defining the sectors of limited radiation in degrees (clockwise) from True North**
- The azimuth or azimuthal sectors of limited radiation, in degrees (clockwise) from True North.
- NOC **ITEM 9I - Maximum agreed radiation in the sectors**
- The maximum agreed radiation in the sector, in dB relative to a cymomotive force (c.m.f.) of 300 V or an effective monopole radiated power (e.m.r.p.) of 1 kW, determined from the nominal power of the transmitter and the theoretical gain of the antenna without allowing for miscellaneous losses.
- NOC **ITEM 9IA - Radiation at central azimuth of augmentation**
- The value of the radiation at the central azimuth of the augmentation, expressed in mV/m at 1 km.
- MOD **ITEM 9J - Reference antenna**
- The measured radiation pattern of the antenna, the reference radiation pattern or the symbols in standard references to be used for coordination.

- ADD** **ITEM 9K - Receiving system noise temperature**
The lowest total receiving system noise temperature, in Kelvin.
- NOC** **ITEM 9N - Attenuation in a sector (dB)**
The value in dB of the attenuation in a defined sector.
- NOC** **ITEM 9NA - Augmentation number**
The serial numbers of the augmentations as described in items 9IA, 9AA and 9CA.
- (MOD)** **ITEM 9NH - Attenuation (dB) in the horizontal plane at different azimuths**
The value of attenuation in dB with respect to maximum e.r.p. in the horizontal plane at different azimuths.
- (MOD)** **ITEM 9NV - Attenuation (dB) in the vertical plane at different azimuths**
The value of attenuation in dB with respect to maximum e.r.p. in the vertical plane at different azimuths.
- NOC** **ITEM 9O - Type of pattern**
The type of antenna radiation pattern, represented by a symbol.
- NOC** **ITEM 9P - Special quadrature factor**
The value of the special quadrature factor, in mV/m at 1 km (to replace the normal expanded quadrature factor when special precautions are taken to ensure pattern stability).
- NOC** **ITEM 9Q - Type of antenna**
Simple vertical antenna or directional antenna.
- NOC** **ITEM 9T1 - Tower number**
The serial number of each of the towers whose characteristics are described in items 9T2 to 9T8.

- NOC **ITEM 9T2 - Tower field ratio**
The ratio of the tower field to the field of the reference tower.
- (MOD) **ITEM 9T3 - Phase difference of the field**
The positive or negative difference in the tower field with respect to the field of the reference tower, in degrees.
- (MOD) **ITEM 9T4 - Electrical tower spacing**
The electrical spacing of the tower from the reference point, in degrees.
- (MOD) **ITEM 9T5 - Angular tower orientation**
The angular orientation of the tower from the reference point, in degrees (clockwise) from True North.
- NOC **ITEM 9T6 - Reference point indicator**
The reference point.
- (MOD) **ITEM 9T7 - Electrical height of tower**
The electrical height of the tower, in degrees.
- (MOD) **ITEM 9T8 - Tower structure**
Symbol corresponding to the tower structure.
- (MOD) **ITEMS 9T9A to 9T9D - Description of top-loaded or sectionalized tower**
Description of top-loaded or sectionalized towers, in degrees.
- (MOD) **ITEM 10A - Maximum hours (UTC) of operation of the circuit to each locality or area**
The maximum hours of operation, expressed in hours and minutes (UTC) or by symbols.

- MOD** **ITEM 10B - Regular hours (UTC) of operation of the frequency assignment**
- The regular hours of operation (in hours and minutes from ... to ...) of the frequency assignment, in UTC.
- (MOD)** **ITEM 10C - Seasons and solar activity**
- The season or month of the year and the level of solar activity, expressed by appropriate symbols.
- MOD** **ITEM 10D - Estimated peak hours of traffic**
- For HF coast radiotelephone stations.
- MOD** **ITEM 10E - Estimated daily volume of traffic**
- For HF coast radiotelephone stations.
- NOC** **ITEM 10F - Duration of transmissions**
- For coast stations in the International NAVTEX system, the duration of transmission in hours and minutes.
- NOC** **ITEM 11 - Coordination with other administrations**
- Country or geographical area with which coordination is to be effected and the provision (No. of the Radio Regulations, regional agreement, or other arrangement) requiring such coordination.
- MOD** **ITEM 12A - Operating administration or agency**
- The symbol for the operating agency.
- NOC** **ITEM 12B - Postal and telegraphic addresses of the administration responsible for the station**
- Symbol for the address of the administration responsible for the station and to which communication should be sent on urgent matters regarding interference, quality of emissions and questions referring to the technical operation of the circuit (see Article S15).

ANNEX 1B
(to Appendix S4)

Table of characteristics to be submitted for stations in the terrestrial services

NOTICE TYPE	API/A1					API/B		API/C	API/A2	API/A4		API/A5	API/A6	API/A7	AP2	AP5	API/A1	NOTICE TYPE
ITEM NO.	AL, NL LR, OE	FC, FP FA, BC FB	FD, FG	FX	SM	AM, ML MA, MO	MS, OD SA	all, except BC	BC	BC	BT	BC	BT	BC	BC	FC	FC (Art. S11)	ITEM NO.
B	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	B
SYNC									X					X				SYNC
1A	X	X	X	X	X	X	X	X	X	X	X ⁵⁾	X	X ⁵⁾	X	X		X	1A
1B	+	+	+	+	+	+	+	+			X ⁵⁾				+			1B
1C				+											X	+		1C
1D											X		X					1D
1E											X		X					1E
1G															O			1G
1H															X			1H
1X																X		1X
1Y																O		1Y
1Z																+		1Z
2C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	+	X	X	2C
3A	X	X	X	X	X				X	O	O	O	O		X		X	3A
4A	X	X	X	X	X				X	X	X	X	X	X	X	+	X	4A
4B	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	4B
4C	X	X	X	X	X	*)	*)	*)	X	X	X	X	X	X	X	+	X	4C
4D						*)	*)	*)										4D
4E						*	*	*										4E

X - Mandatory

+ - One of the items

+ - required in specific cases

O - optional

1) Either (4C and 4D) or (4E).

5) May not be required with the new TerRaSys.

NOTICE TYPE	API/A1					API/B		API/C	API/A2	API/A4		API/A5	API/A6	API/A7	AP2	AP5	API/A1	NOTICE TYPE
ITEM NO.	AL, NL LR, OE	FC, FP FA, FB BC	FD, FG	FX	SM	AM, ML MA, MO	MS, OD, SA	all except BC	BC	BC	BT	BC	BT	BC	BC	FC	FC (Art. S11)	ITEM NO.
4F																	X	4F
4G									X									4G
5A				X		X	X											5A
5B				X		X	X											5B
5C				X		X	X										*	5C
5D		*2)	*2)												X	*3)	*	5D
5E	X	*	*		X											*		5E
5F	X	*	*		X											*		5F
5G	+	+	+	+	+											+	+	5G
6A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	6A
6B	+	+	X	X		X	X	+								X		6B
6C	+	+	+	+	+													6C
7A	X	X	X	X	X	X	X	X	X	X ³⁾	X ³⁾	X ³⁾	X ³⁾	X	X	X	X	7A
7B				X					X					X				7B
7C1									X ⁴⁾		X		X					7C1
7C2											X		X					7C2
7D												X						7D
7E				+ ⁷⁾														7E
7F				+ ⁷⁾														7F
8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	8

X - Mandatory

* - One of the items

+ - required in specific cases

O - optional

2) Either (5D) or (5E and 5F).

3) Either (5D and 5F) or (5E and 5F).

4) For low power channels.

5) May not be required with the new TerRaSys.

7) This information need only to be furnished when such information has been used as a basis to effect coordination with another administration. This information may be optionally provided in a request for coordination under [S9.16, S9.18 and S9.19].

NOTICE TYPE	API/A1					API/B		API/C	API/A2	API/A4		API/A5	API/A6	API/A7	AP2	AP5	API/A1	NOTICE TYPE
ITEM NO.	AL, NL LR OE	FC, FP FA BC, FB	FD, FG	FX	SM	AM, ML MA MO	MS, OD, SA	all, except BC	BC	BC	BT	BC	BT	BC	BC	FC	FC (Art. S11)	ITEM NO.
8A	*	*	X	*	X	*	*	*	X					X	X	X	*	8A
8AB				*)														8AB
8B	*	*		*		*	*	*		X	X	X	X				*	8B
8BH										X	X	X	X					8BH
8BV										X	X	X	X					8BV
8D											X		X					8D
9	X	X	X	X	X				X	X	X	X	X		X	X	X	9
9A	X	X	X	X	X				X	X	X	X	X		X	X	X	9A
9AA														X				9AA
9AB	+	+	+	+	+				+						+	+	+	9AB
9B				+											X			9B
9C	+	+	+	+	+											+		9C
9CA														X				9CA
9D				+						X	X	X	X					9D
9E				+					X	X	X	X	X					9E
9EA										X	X	X	X					9EA
9EB										X	X	X	X					9EB
9EC										X	X	X	X					9EC
9F														X				9F
9G	+	+	+	+	+			+							+	+		9G
9GH									X									9GH

X - Mandatory

* - One of the items

+ - required in specific cases

O - optional

- 7) This information need only to be furnished when such information has been used as a basis to effect coordination with another administration. This information may be optionally provided in a request for coordination under [S9.16, S9.18 and S9.19].

TYPE	API/A1					API/B		API/C	API/A2	API/A4		API/A5	API/A6	API/A7	AP2	AP5	API/A1	NOTICE
EM	AL, NL	FC, FP	FD, FG	FX	SM	AM, ML	MS, OD,	all, except	BC	BC	BT	BC	BT	BC	BC	FC	FC (Art.	TYPE
O.	LR	FA				MA	SA	BC									S11)	NO.
	OE	BC, FB				MO												
GV									X									9GV
9H									X	X ⁵⁾	X ⁵⁾	X ⁵⁾		+		+		9H
9I									X					X				9I
9IA														X				9IA
9J				+, + ¹⁾											X	+		9J
9K				+ ²⁾														9K
9N												X ⁵⁾						9N
9NA														X				9NA
9NH										X ⁶⁾	X ⁶⁾	X ⁶⁾	X					9NH
9NV										X ⁶⁾	X ⁶⁾	X ⁶⁾	X					9NV
9O														X	X	X		9O
9P														X				9P
9Q									X					X				9Q
9T1														X				9T1
9T2														X				9T2
9T3														X				9T3

X - Mandatory

+ - One of the items

+ - required in specific cases

O - optional

may not be required with the new TerRaSys.

may be used in the future TerRaSys.

This information need only to be furnished when such information has been used as a basis to effect coordination with another administration. This information may be optionally provided in a request for coordination under [S9.16, S9.18 and S9.19].

NOTICE TYPE	API/A1					API/B		API/C	API/A2	API/A4		API/A5	API/A6	API/A7	AP2	AP5	API/A1	NOTICE TYPE
ITEM NO.	AL, NL LR OE	FC, FP FA BC, FB	FD, FG	FX	SM	AM, ML MA MO	MS, OD, SA	all, except BC	BC	BC	BT	BC	BT	BC	BC	FC	FC (Art. S11)	ITEM NO.
9T4														X				9T4
9T5														X				9T5
9T6														X				9T6
9T7														X				9T7
9T8														X				9T8
9T9A														+				9T9A
9T9B														X				9T9B
9T9C														+				9T9C
9T9D														+				9T9D
10A				+														10A
10B	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	10B
10C															X			10C
10D																X		10D
10E																X		10E
10F																	X	10F
11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O	O	X	11
12A	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	12A
12B	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	12B

X - Mandatory

* - One of the items

+ - required in specific cases

O - optional

ANNEX 2A
(to Appendix S4)

Characteristics of Satellite Networks or Earth or Radio Astronomy Stations¹

A. General characteristics to be provided for the satellite network or the earth or radio astronomy station

A.1 Identity of the satellite network or the earth or radio astronomy station

- a) Identity of a satellite network.
- b) Country and ITU number (Regions 1 and 3); country and beam identification (Region 2).
- c) Country and beam identification.
- d) Country and identification of the allotment; for a network not derived from the Allotment Plan, the identity of the network.
- e) Identity of an earth or radio astronomy station:
 - 1) the type of earth station (specific or typical);
 - 2) the name by which the station is known or the name of the locality in which it is situated;
 - 3) for a specific earth station:
 - the country or geographical area in which the station is located, using the symbols from the Preface to the International Frequency List;
 - the geographical coordinates of each transmitting and receiving antenna site constituting the earth station (longitude and latitude in degrees and minutes as well as seconds with an accuracy of one-tenth of a minute; the seconds need only be furnished if the coordination area of the earth station overlaps the territory of another administration);
 - 4) for a radio astronomy station:
 - the country or geographical area in which the station is located, using the symbols from the Preface to the International Frequency List;

¹ *Note: The Bureau shall develop and keep up-to-date forms of notice to meet fully the statutory provisions of this Appendix and related decisions of future conferences. Additional information on the items listed in this Annex together with an explanation of the symbols is to be found in the Preface to the International Frequency List.*

- the geographical coordinates of the station site (longitude and latitude in degrees and minutes).
- f) Country symbol of the notifying administration. In the case of advance information, give the symbol of the administration or the symbols of the administrations in the group submitting the advance information on the satellite network.

A.2 Date of bringing into use

- a) The date (actual or foreseen, as appropriate) of bringing the frequency assignment (new or modified) into use. Whenever the assignment is changed in any of its basic characteristics (except in the case of a change in item A.1.a), the date to be given shall be that of the latest change (actual or foreseen, as appropriate);
- b) For the case of a space station onboard a geostationary satellite, the period of validity of the frequency assignments (see Resolution 4 (Rev.Orb-88));
- c) The date (actual or foreseen, as appropriate) on which reception of the frequency band begins or on which any of the basic characteristics are modified.

A.3 Operating administration or agency

Symbols for the operating administration or agency and for the address of the administration to which communication should be sent on urgent matters regarding interference, quality of emissions and questions referring to the technical operation of the network or station (see Article S15 of the Radio Regulations).

A.4 Orbital information

- a) For the case of a space station onboard a geostationary satellite:
 - 1) the nominal geographical longitude on the geostationary-satellite orbit;
 - 2) the planned longitudinal tolerance and inclination excursion.

In the case where a geostationary space station is intended to communicate with an earth station:

- 3) the arc of visibility (the arc of the geostationary-satellite orbit over which the space station is visible at a minimum angle of elevation of 10° at the Earth's surface from its associated earth stations or service areas);
- 4) the service arc (the arc of the geostationary-satellite orbit within which the space station could provide the required service to its associated earth stations or service areas);
- 5) in the event that the service arc is less than the arc of visibility, the reasons therefor.

- b) For the case of space station(s) onboard non-geostationary satellite(s):
- 1) the angle of inclination of the orbit;
 - 2) the period;
 - 3) the altitudes in kilometres of the apogee and perigee of the space station(s);
 - 4) the number of satellites used.

In addition, if the stations operate in a frequency band subject to the provisions of No. S9.11bis:

- 5) new data elements required to characterize properly the orbital statistics of non-GSO satellite systems;
- N_p = number of orbital planes;
- N_s = number of satellites in each orbital plane;
- Ω_j = right ascension of the ascending node for the j-th orbital plane, measured counter-clockwise in the equatorial plane from the direction of the vernal equinox to the point where the satellite makes its south-to-north crossing of the equatorial plane ($0^\circ \leq \Omega_j < 360^\circ$);
- i_j = inclination angle for the j-th orbital plane with respect to the reference plane, which is taken to be the Earth's equatorial plane ($0^\circ \leq i_j < 180^\circ$);
- ω_i = initial phase angle of the i-th satellite in its orbital plane at reference time $t = 0$, measured from the point of the ascending node ($0^\circ \leq \omega_i < 360^\circ$);
- α = semi-major axis;
- e = eccentricity ($0 \leq e < 1$);
- ω_p = argument of perigee, measured in the orbital plane, in the direction of motion, from the ascending node to the perigee ($0^\circ \leq \omega_p < 360^\circ$).
- c) For the case of an earth station, the identity of the associated space station(s) with which communication is to be established as well as, in the case of a geostationary space station, its orbital position.

A.5 Coordination

The country symbol of any administration with which coordination has been successfully effected, as well as the country symbol of any administration with which coordination has been sought but not completed.

A.6 Agreements

If appropriate, the country symbol of any administration or administration representing a group of administrations with which agreement has been reached, including where the agreement is to exceed the limits prescribed in these Regulations.